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ABSTRACT

Health and demographic characteristics of adolescent and older mothers have been examined mostly in samples representative of urban populations often with large proportions of racial or ethnic minorities. The generalizability of data from urban, heterogeneous samples to service providers in states with large rural and semi-rural populations is questionable. This study analyzed the incidence of births to adolescents in Maine and compared the health and demographic characteristics of this population to those of older mothers. Data from the Maine Office of Data, Research and Vital Statistics revealed that both the number of births to adolescents as a percentage of all births and the birth rate for adolescents declined through the 1970s and into the mid-1980s. The percentage of adolescents not married at the time they gave birth rose from 20.9% in 1970 to 58.0% in 1985. For the years of 1980 through 1984, adolescent mothers began prenatal care on average about one-half month later than did older mothers. Compared to infants born to older mothers, a higher percentage of infants born to adolescents weighed less than 2,500 grams. The trend was linear, with the highest percentage of low birthweight infants being born to the youngest mothers. The mean Apgar scores for infants born to adolescents were lower than were scores for infants of older mothers. Adolescents were disproportionately represented in the category of abortions. (NB)

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COMPARATIVE HEALTH CHARACTERISTICS OF ADOLESCENT AND OLDER MOTHERS AND THEIR OFFSPRING IN MAINE

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COMPARATIVE HEALTH CHARACTERISTICS OF ADOLESCENT AND OLDER MOTHERS AND THEIR OFFSPRING IN MAINE

INTRODUCTION

Interest in adolescent pregnancy and parenting during the decade of the seventies focused on the description of the phenomenon. Adolescent mothers experienced greater obstetrical risks, lower educational attainment, and greater un- or underemployment than peers who waited until they were older to have their firstborn (e.g., Card & Wise, 1978; Phipps-Yonas, 1980). Offspring of adolescent mothers were at greater risk for prenatal complications, health problems, and subsequent social and cognitive difficulties in school (e.g., Baldwin & Cain, 1980; Elster, McAnarney, & Lamb, 1983).

Subsequent research characterized adolescent parents as having unrealistic expectations about developmental milestones of children, verbalizing less to their infants, and having more punitive childrearing attitudes than older mothers (e.g., Epstein, 1980; Field, Widmayer, Stringer, & Ignatoff, 1980; Roosa, 1983; Roosa, Fitzgerald, & Carlson, 1982). These findings were derived primarily from samples representative of urban populations often with large proportions of racial or ethnic minorities. Schilmoeller and Baranowski (1985) sampled semi-rural, Caucasian adolescent parents in Maine. They found that adolescent mothers knew as much about developmental milestones, had equally positive childrearing attitudes, and were as verbal with their infants as older mothers of firstborn infants. Thus, the generalizability of data from urban, heterogeneous samples to service providers in states with large rural and semi-rural populations such as Maine is questionable. Perhaps the health characteristics of adolescent parents and their infants in Maine are different than those described in other studies. Low birthweight and less healthy infants often set the occasion for difficult parent-infant interactions. If

infants of adolescent mothers in Maine are as healthy as those of older mothers, the findings of Schilmoeller and Baranowski might be explained partially by the more optimal start experienced by these adolescent mothers and their offspring. Therefore, the purpose of this study was to analyze the incidence of births to adolescents in Maine from and to profile the health and demographic characteristics of this populations as compared with births to older mothers.

METHODS

The Office of Data, Research and Vital Statistics provided birth certificate data for all resident births in the State of Maine from 1980 to 1984. These records contain information on age and education of mother and of father as well as month during pregnancy that prenatal care began, total prenatal visits, and marital status of the mother. Infant data include birthweight and Apgar scores. The Apgar score reflects the newborn's heartrate, breathing, muscle tone, circulation, and reflexes. Infants are assessed at one and five minutes postpartum. Scores can range from 0 to 10; the higher the score, the healthier the infant. Additional tables of data on birth rates and incidence of resident births for earlier years as well as on abortions for years 1980 - 1985 were provided by the Office of Data, Research and Vital Statistics.

RESULTS AND DISCUSSION

Number of Births

Both the number of births to adolescents as a percentage of all births and the birth rate for adolescents declined through the decade of the seventies (Table 1). Since 1980, the births to adolescents as a percentage of all births continued to decline from 15.3% in 1980 to 11.7% in 1985. The birth rate, however, while lower than during the seventies, has been stable at about 47

births per 1000 adolescents. Thus, the lower percentage of births to adolescents since 1980 is a factor of fewer adolescent women as a proportion of all women of childbearing age rather than lower birth rate among adolescents.

Births Out-of-Wedlock

The percentage of adolescents not married at the time they gave birth rose from 20.9% in 1970 to 58.0% in 1985 (Table 2). By contrast, the percentage of infants born to unmarried older women in Maine rose from 5.1% in 1970 to 12.5% in 1985. On the surface, these data may cause alarm. However, Furstenburg (1976) and Chilman (1980), among others, note that both the infant and adolescent mothers often are better off if unmarried and residing in the family of origin. Adolescents who marry experience a higher divorce rate than their peers who marry at an older age. Further, better educational and economic outcomes are associated with adolescent mothers who remain single and live with their parents. The adolescents' parents often provide assistance with childcare which benefits both the infant and the adolescent mother. Mercer (1977) contends that the teenage mothers most likely to be successful at parenting are those who have a good relationship with their family of origin, are making progress in school, and enjoy motherhood. The out-of-wedlock status *per se* has not been shown to jeopardize the adolescent and her infant. A more important variable is likely to be the overall quality of the social support system, both formal and informal.

Prenatal Care and Neonatal Status

For the years of 1980 - 1984, adolescent mothers began prenatal care on average about one half month later than older mothers (Table 3). As expected, this translates into a slightly higher mean number of total prenatal visits on the part of the older mothers. For the years 1970 - 1980, Baranowski, Schilmoeller, and Davis (1982) reported a Pearson correlation of .19 between

birthweight and the total number of prenatal visits for adolescents in Maine. A similar positive relationship exists for the years 1980 - 1984 ($r=0.20$, $p<.000$). The reported incidence of no prenatal care was very low for both adolescent and older mothers (less than 1.5% in the highest year). However, missing data ranged from 1.3% (adolescent mothers in 1982) to 4.6% (adolescent mothers in 1984). Given the importance of early and continuous prenatal medical care, efforts to clarify whether these missing data represent cases of no prenatal care would seem a high priority.

A higher percentage of infants born to adolescents weighed less than 2500 grams than infants born to older mothers (7.5% of infants born to mothers less than 20 years of age; 4.9% of infants born between 20 and 35; 6.9% of infants born to women over 35 years of age). Within the adolescent group, the trend is linear with the highest percentage of low birthweight infants being born to the youngest mothers (11.0% of infants born to mothers less than 16 years of age; 8.2% of infants of mothers 16 and 17 years of age; 7.0% of infants of mothers 18 and 19 years of age).

The mean Apgar scores for infants born to adolescents are lower at both one and five minutes than for infants of older mothers (Table 4). However, scores of seven or higher are considered a sign of acceptable neonatal health. Thus, while the slight differences between groups are statistically reliable, all groups fall within the acceptable range.

Incidence of Abortion

While the percentage of infants born to adolescents decreased from 15.3 in 1980 to 12.2 in 1984, the percentage of total abortions in Maine accounted for by the adolescent group ranged from 27.9 to 30.7 during this five year period (Table 5). Thus, adolescents are disproportionately represented in the category of abortions.

Births by Age of Mother

The number of births to adolescent mothers by age for years 1980 through 1985 are shown in Table 6. For each year, more than two-thirds of the births were to 18- and 19-year olds and approximately 4% were to mothers 15 or younger.

Age of Father

Intervention efforts to prevent pregnancy among adolescents often target adolescent males on the assumption that adolescent males father the children of adolescent females. However, for the years of 1980 - 1985, in the 59.1% of the births to adolescents for whom the age of father was specified, fathers were 21 or older. Even among mothers 17 and under, 26.4% of the reported cases were to males who were 21 or older. Many times the age of the father is not specified (33.5% for all adolescents; 49.4% for adolescents 17 and under). However, even if one assumed that all of these missing cases represented adolescent fathers, 38.3% of all fathers would be 21 or older. Further, 18.6% of the total births to adolescents 17 and under would be fathered by males who were 21 or older. Intervention efforts targeted for males clearly need to be geared to males of all ages, not just adolescent males.

SUMMARY

Births to adolescent mothers as a percentage of total births peaked in the early seventies and has been declining gradually since that time. The birth rate to adolescents showed a similar pattern, though it leveled off since 1980. Adolescents began prenatal care slightly later than older mothers. Further, the percentage of low birthweight infants was highest for adolescent mothers. Since low birthweight is associated with subsequent health and cognitive difficulties for infants, continued attention to the health and nutritional patterns of pregnant adolescents is warranted.

With the birth rate remaining stable and the incidence of abortions approximating 50% of the total live births to adolescents, it is clear that adolescent pregnancy and parenting continue to be long term concerns for the State of Maine.

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Table 1

Resident Live Births in Maine 1970 - 1985

Year	Total Live Births	Births to Adolescents	Births to Adolescents as Percentage of Total Births	Births to Adolescents per per 1,000 Age 15-19
1970	17837	2998	16.8	64.40
1971	17850	3145	17.6	66.73
1972	16269	3152	19.4	66.05
1973	15730	3078	19.6	63.71
1974	15110	2723	18.0	55.67
1975	15232	2873	18.9	58.02
1976	14519	2552	17.6	50.90
1977	16252	2700	16.6	53.19
1978	15919	2517	15.8	48.98
1979	16435	2441	14.9	46.91
1980	16474	2515	15.3	47.74
1981	16567	2337	14.1	47.68
1982	16695	2194	13.1	43.83
1983	16576	2117	12.8	47.65
1984	16631	2030	12.2	47.54
1985	16905	1977	11.7	-----

Table 2

Percent of Births Out-of-Wedlock in Maine by Age Group

1970-1985

Year	Adolescents	Older Mothers
1970	20.9	5.1
1971	21.7	4.8
1972	21.8	5.2
1973	22.9	4.9
1974	24.5	4.9
1975	28.0	5.6
1976	31.7	6.0
1977	33.7	6.4
1978	37.2	7.5
1979	40.6	7.8
1980	41.4	8.8
1981	44.0	9.4
1982	47.7	9.7
1983	47.9	10.1
1984	52.2	11.3
1985	58.0	12.5

Table 3

History of Prenatal Care in Maine, 1970-1984

Year	Mean Month Prenatal Care Began		Mean Total Prenatal Visits		Percentage Receiving No Prenatal Care	
	Teen	Older	Teen	Older	Teen	Older
1980	3.24	2.65	9.62	10.62	0.9(2.6)*	0.3(2.7)
1981	3.13	2.61	9.95	10.78	1.4(2.9)	1.2(2.1)
1982	3.19	2.51	10.08	11.10	1.3(1.4)	0.9(1.6)
1983	3.13	2.55	10.21	11.06	0.2(3.2)	0.1(2.3)
1984	3.23	2.60	10.42	11.27	0.2(4.3)	0.1(3.1)

*The data in parantheses represent missing data

Table 4

Mean Apgar Scores at One and Five Minutes
by Age Group for Combined Years 1980-1984

Age Group	Mean Apgar Score at One Minute	Mean Apgar Score at Five Minutes
Under 20	7.89	9.01
20 - 35	8.03	9.09
Over 35	7.93	9.03

Table 5

Births and Abortions to Adolescents in Maine, 1980-1985

Year	Percentage of Total Births	Percentage of Total Abortions
1980	15.3	30.7
1981	14.1	28.6
1982	13.1	27.9
1983	12.8	29.6
1984	12.2	30.5
1985	11.7	30.3

Table 6

Births to Adolescents in Maine by Age of Mother, 1980-1985

Year	Age < 15 Births (%)	Age=15 Births(%)	Age=16 Births(%)	Age=17 Births(%)	Age=18 Births(%)	Age=19 Births(%)
1980	23 (0.9)	80 (3.2)	241 (9.6)	459 (18.3)	682 (27.1)	1030 (41.0)
1981	10 (0.4)	89 (3.8)	224 (9.6)	399 (17.1)	655 (28.0)	960 (41.1)
1982	14 (0.6)	78 (3.6)	185 (8.4)	393 (17.9)	598 (27.3)	926 (42.2)
1983	15 (0.7)	74 (3.5)	189 (8.9)	370 (17.5)	585 (27.6)	884 (41.8)
1984	17 (0.8)	73 (3.6)	189 (9.3)	330 (16.3)	575 (28.3)	846 (41.7)
1985	18 (0.9)	58 (2.9)	184 (9.3)	367 (18.6)	563 (28.5)	787 (39.8)